



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

RELATION BETWEEN TRANSIT AND HOUSING

BY JOHN P. FOX,

Secretary of the Transit Committee, City Club of New York.

One of the most interesting developments of the last hundred years is that of city transit, or simply transit, the importance of the subject being responsible for the appropriation of this hitherto general term.

It was many years after the introduction of steam that the street railway was introduced, and it now seems curious how long mechanical traction in any form was delayed on the streets after its universal use on the railroads.

It is hard for us to realize today how many thousand years the world managed to exist without real transit facilities. Cities have existed for ages, but it is only within the last fifty years that street cars succeeded a more meager omnibus service; while the real development of transit has occurred since the introduction of electricity—twenty-five years ago.

It is well sometimes to look back over the past and see whether all the changes have been beneficial or whether developments have taken place which are not altogether best and which should be turned in the right direction.

In the early days of American cities, their small area enabled people very largely to walk to their work. There was space enough for some persons to keep horses, especially in the smaller cities and immediate suburbs of the larger ones. Early in the last century the omnibus was introduced to entice people to take life easy and surrender exercise and money at the same time. The street railway succeeded the omnibus, with its faster, smoother, and quieter service. In London first, and then New York, the slowly awakening desire for faster travel produced the first subway and the first elevated railway. But it was not until the introduction of electricity that transit reached its most rapid stage of development and that people became so dependent on means of riding to work and traveling rapidly through the streets.

Today transit has pushed its way into almost every corner of the globe; and, while the people of the old world were slower at first to

change their habits than those of the new, one English city has seen its rides per capita multiply six times over in nineteen years, or increase by 500 per cent, while Philadelphia and Boston's rides per capita increased only 50 per cent.

Looking most critically at the growth of transit, many beneficial results are apparent. Families have been enabled to leave undesirable neighborhoods and move to houses where better surroundings and more space are afforded. Communities adjacent to each other, but separated by space or topographical conditions, have become more united and jealousies broken down. The possibilities of social intercourse have been greatly increased and the people as a whole must have benefited greatly by the large extension of social horizon and the widening of the area in which one could make friends. For many persons the time in getting to and from work has been reduced; persons out of work can look for new employment more easily; work requiring travel about a city is more easily carried on. Places and means of recreation and exercise have been made more accessible, such as parks, playgrounds, theaters, amusement resorts, country and seaside, educational institutions, museums, concert places, churches, etc., can more easily wield their influence for good by becoming more accessible. Persons in hospitals and other institutions are within reach of their friends. Business has been concentrated more in the center of cities, a thing which some persons consider a disadvantage but which Dr. Werner Hegemann of Berlin believes is one of the marked superiorities of the American city over those of the old world. More land has been opened up, permitting advantage to be taken of lower prices and lower rents.

But with all the advantages brought by transit, there are serious disadvantages which have been altogether too much overlooked. The most objectionable accompaniment of transit today is the overcrowding of the cars, an evil especially aggravated in America, owing to the indifference, selfishness, or stupidity of most of the traction companies, and the ignorance or ineffectiveness of public authorities. Those who have studied this condition of overcrowding have found that it is an unnecessary evil, especially in the light of European experience. But companies have carefully fostered the belief that congestion cannot be remedied and still cling to the delusion that it pays; so that the evil results, though somewhat improved in the last few years, still persist.

The worst side of transit today is its unhealthfulness. People are obliged to stand while traveling long distances, adding often to the fatigue of long hours of labor. They are brought into contact favorable for the spread of disease and injurious to morals. Politeness and kindness are not only well nigh impossible but the selfish instincts of people have been developed to an alarming extent by the rush to get places on cars. Women and girls are the worst sufferers; men have been the most demoralized. The old and infirm can hardly travel safely even when attended. The air of many cars is still debilitating when the windows are closed, though ventilation is slowly being recognized as an asset by the companies. But in the New York subway, where the congestion can be found at its worst, and where the air receives the most pollution from human emanations and the steel and particles due to wear of equipment, the only attempt at ventilation is still simply the churning up of the car air in summer by revolving fans, the fresh air finding its way in as best it can. The subway is really the sewer for air of the street, and the more ventilating openings there are, the more the street dirt can filter down into the tunnels where it is breathed at the stations and sucked through by the trains into dark regions where the disinfecting rays of the sun rarely penetrate. The noise in subways is bad enough for those who must listen to it, still worse for those who strain their throats to talk. Better car lighting may have reduced the eye strain; but almost all cars in America, both steam and electric, through neglectful design, vibrate too much for comfort, if not for safe use of the eyes for reading.

While the cost of transit to the individual may not seem large, at the same time one cannot help wondering whether there is not a great waste of expenditure going on. The cost of riding per capita seems small, being about \$10 per year in Pittsburgh, \$14 per year in Boston and Philadelphia, nearly \$20 for Manhattan and the Bronx. But when the cost per family per year is considered, it is about five times the previous amounts. And the actual sums spent by persons who do ride and the proportion of family income devoted to the purpose are often surprisingly large. Some commuters who live near New York spend as much as \$150 a year riding to and from work.

Many New Yorkers today are proud of the city's investment in transit lines, and of the immense sums that are being expended for new lines. Other cities have caught the fever for subways and are building or planning to build. Whether the immense investment for

transit in New York is not partly unnecessary because it produces more or less injurious results and is proving an economic drain on the community without a sufficient gain still remains to be ascertained.

In addition to the possible money loss to the individual and the city from too much transit there is the possible waste of time. A half hour or an hour spent between home and work twice a day constitutes a considerable share of a lifetime. If this time were spent in walking it would generally be beneficial. When it is spent in carefully reading the newspapers by one seated in a well lighted, well ventilated car, or reading anything worth while or in useful conversation, or in quiet resting the result may be beneficial. But when spent under the unhealthful conditions already named, there is certainly a loss. The longest daily journeys are not to be found in America, however, but in Belgium, where the remarkably low workmen's fares on the state railroads, enabling men to travel 6 miles for 2 cents, 21 miles for 3 cents, 38 miles for 4 cents, and 58 miles for 5 cents, encourage a workman to keep his home at however great a distance his work may be. In extreme cases a man will spend six hours every day on the train, with only five hours at home at night, from 10 p.m. to 3 a.m.

While in many cases transit development has resulted in the moving of families into better homes, in the case of the New York subway there appears to have been little gain. Before the subway was completed all along the two northern branches, apartment and tenement houses began to spring up and the people who have moved uptown along the new lines have merely exchanged one tenement for another, newer perhaps, but still a tenement. The larger and uncomfortable ride offsets the improvement in living conditions.

There is one curious aspect to the remarkable increase in riding, especially in the larger cities. It has been found that, as fast as new facilities are provided, they become overcrowded. This is notably true of the New York subway and has been used as the strongest argument for more subways. But, if more subways will always result in more congestion, are we sure it is right to build them? Their construction has been urged with feverish anxiety lest existing transit lines be swamped. But it appears likely now that new lines largely create their own traffic and congestion and that if they were not built, there might be simply less travelling going on, to the benefit perhaps of the city and not to its detriment.

It should be made clear at this point that this apparently pessi-

mistic view of the value of transit does not mean that the writer is against transit, but that he is merely raising the question as to how much of it is really needed, how much not needed or really undesirable.

For the possible evils of too much transit, city planning suggests a remedy, viz: walking to work. This does not mean a return to the conditions when every one worked at home, with his shops in his house; but rather the locating of business, industries, and commerce on the one hand and houses on the other so that persons can walk to and from work. Some people believe this can be brought about by the scattering of industry, so that houses can be used all about the place of work. But would not this result in too scattered a community and undo the beneficial tendency towards unity which transit has brought about? Other persons believe in creating different centers of activity, with people living about these centers, connecting them with the main center of the city and with each other through adequate radial highways and transit lines. Even with such a plan, too great a spreading out seems possible and too great an expense seems necessary to connect the centers together with adequate highways and rapid transit lines.

The New York subway, curiously enough, suggests the best remedy for preventing the very evil which it has caused. At the same time that it has been creating too much riding at the rush hours to and from work, it has been spreading business out in a long line up Manhattan Island. Manhattan Island today has, roughly speaking, five zones. In the center, along the subway and central transit lines, is the business zone. On each side are housing zones, made up of tenements and old houses, in the southern half of the island and newer houses, tenements and apartment houses in the northern part of the island. Along the river front are two commercial and industrial zones. The two housing zones extend far south, flanking even Wall street on the west side, and are absolutely indispensable, because they permit so many people to live within walking distance of work who could not afford the long ride to and from outlying sections.

It is surprising how many people do walk to their work regularly, in all cities. Boston, by a miracle, has stopped the march of business over Beacon Hill, and has there, and for the Back Bay, a large reservoir of space for the wealthy to live near their work. The poorer classes can live in the west and north ends, or over the rivers and channels in Charlestown and South Boston, and still be near the business and commercial sections. Some cities are better situated than

others, but the idea of walking to work is not so revolutionary as it may seem to some people.

The application of the New York idea is simply this: That every city, as soon as it can afford it, should build a rapid transit line through the district or districts best suited for business, shopping and similar purposes, providing for the best possible train service and lowest possible fares, so as to induce business from existing locations to locate along the new line. This line should be located as far as possible so as to allow housing zones each side, where the poorer workers at least could live within proper walking distance of their work. A transit line, with fast and good service, ought to do for other cities exactly what the subway has done for New York, which is making it possible again for people to live in most desirable districts like Murray Hill, and men to walk to their place of business and women to the stores close by.

The radiating of transit lines, as in Chicago and Boston, is a hindrance to this plan and where radiating lines are needed to serve existing conditions the best improvements should be made along the route best suited for the extension of business. Boston, for example, might have had a four-track rapid transit system between Charlestown and Roxbury, which would have kept the Back Bay for residences and prevented the present uncertainty where to locate new stores and buildings. It may not be too late even now to make the improvement. For Philadelphia, Broad street should be made the business axis, with a straight transit line from north to south and without the ill-advised delivery loop subway now planned, which would tend to duplicate in Philadelphia the evils of Chicago's congested business center. Chicago itself certainly needs a real rapid transit line, running straight through the down-town district, to extend business out the way that the New York subway has, with a chance for housing each side. Pittsburgh needs lines extending from Allegheny to East Liberty, around one or both sides of the hill district, near the surface all the way and not a deep tunnel as planned, which would merely develop two congested business centers down town and at East Liberty, neglecting all the available business and housing land between where topography would force almost ideal conditions of living and working.

The writer is aware that the foregoing suggestions are contrary to accepted standards of city planning, especially in the advocacy of a

longitudinal city as against a round city. But the more one studies the round city, the more faults it develops and the more objections arise.

The round city, as found in America tends to have a congested business center, with high buildings, high land values, high rents, congested streets and similar faults. It tends to require riding to and from work, especially if one wishes to live anywhere near the country. It requires too many radiating streets to reach surrounding territory, using more land than necessary. It makes it impossible to build one adequate rapid transit line to serve all the central district and the residence sections. It buries most people in its midst too far from the country, the latter being reached only by riding, which many poor people cannot afford to do.

The advantages of the longitudinal city are most marked in the thriving municipalities of Barmen and Elberfeld just east of Düsseldorf in western Germany. Lying along the valley of the Wupper River, is one of the prosperous regions of Germany, famous for its chemical industries. The manufactories extend along the river, served by two lines of the state railroads. On the slopes of the valley above the river are the homes of the workmen, within walking distance of work, while directly behind the houses is the country, within easy reach of all. Cheap passenger transit is afforded the whole length of the region by the railroad lines and by the well known suspended railway, built largely over the Wupper River. This suspended railway, supplemented by surface electric lines, affords the utmost facility for reaching the industries along the valley for convenience in case of a change of work, for reaching the business and shopping sections, the amusement resorts, etc. The workmen can travel the whole length of the line in the morning for one cent, $8\frac{1}{2}$ miles. At different points along the valley is business concentrated as at Barmen and Elberfeld. These business districts ought to be extended in the future at right angles to the river, in order not to encroach on the manufacturing zone. Adequate transit should be afforded to the lateral business districts so as to develop their extension away from the river. With the people working in the business houses, living on each side of the lateral zones and the workmen above the industries in the valley, an ideal community would be found.

The situation of the industries at Barmen and Elberfeld is extremely suggestive. Would it not be well to locate all industries in narrow zones along railroads, with the houses close by and the country

just behind instead of scattering factories all over a city or in small towns? Should not business also be located ideally in a narrow district at right angles to the industrial belt, with houses each side and the country again near, and a rapid transit backbone, crossing the industrial belt at a central station? If these ideas are right then the model city is a Maltese cross; narrow enough to keep the country always within walking distance of all the inhabitants, rich and poor. If those who are inclined to criticize this ideal will reflect on it and try to apply it to different cities, perhaps they will see the advantages over other city developments. The adoption of the cross-shaped city with industrial and business belts and cheap and rapid transit in both directions seems to be the next step in city planning.

In closing, one would point out the superiority of the suspended railway found at Barmen and Elberfeld over all other types of rapid transit lines. Improved on in the Berlin plans, and recognized as the ideal by most of the leading German engineers, the suspended railway has none of the defects of subways and ordinary elevated roads. Safer, quieter, cheaper, with no flooring to obstruct light and air, with no noise to damage property, with no possibility of derailment, with a cost only two-thirds that of elevated lines, stable and smooth running, the suspended railroad is as remarkable a development in transit as its location in Barmen and Elberfeld is ideal for city plan. The cars are capable of running in a subway with none of the dangers of the ordinary railway. But the logical place for human beings to ride, as some of the foremost American subway builders have always maintained, is in the light and air of the streets, with freight and not passengers underground.